

IN THE CLAIMS

Please cancel claims 6-9 without prejudice or disclaimer.

Please amend claims 1, 4, 10, 11 and 14 as indicated below.

This listing of claims will replace all prior versions, and listings, of the claims in the Application.

Listing of Claims:

Claim 1 (currently amended) A method for avoiding oxide gouging in shallow trench isolation (STI) regions of a semiconductor device comprising the steps of:

etching a trench in an STI region;

~~depositing an insulating material in~~ filling said trench with an insulating material;

forming a gate oxide layer overlying said STI region and extending beyond the boundaries of said STI region;

depositing a polysilicon layer over said gate oxide layer;

depositing an anti-reflective coating (~~ARC~~) layer over said polysilicon layer;

etching a portion of said ~~ARC~~ anti-reflective coating layer over said STI region leaving a remaining portion of said ~~ARC~~ anti-reflective coating layer over said STI region and extending beyond the boundaries of said STI region;

etching an exposed portion of said polysilicon layer and said gate oxide layer over said STI region leaving a remaining portion of said polysilicon layer and said gate oxide layer over said STI region and extending beyond the boundaries of said STI region;

depositing a protective cap over said STI region and extending beyond the boundaries of said STI region, wherein said protective cap covers said remaining portion of said ~~ARC~~ anti-reflective coating layer over said STI region and covers said insulating material over said STI region;

etching a portion of said protective cap to expose said remaining portion of said ~~ARC~~ anti-reflective coating layer while maintaining protection of said insulating material; and

etching said remaining portion of said ~~ARC~~ anti-reflective coating layer;

wherein said insulating material is protected during etching of said remaining

portion of said ~~ARC~~ anti-reflective coating layer by said protective cap.

Claim 2 (original) The method as recited in claim 1, wherein said protective cap comprises photoresist material.

Claim 3 (original) The method as recited in claim 2, wherein said photoresist material has a thickness of about 800Å to 1200Å.

Claim 4 (currently amended) The method as recited in claim 1, wherein said remaining portion of said ~~ARC~~ anti-reflective coating layer is etched using a plasma etch process.

Claim 5 (original) The method as recited in claim 1, wherein said insulating material comprises thermal oxide.

Claims 6-9 (cancelled)

Claim 10 (currently amended) A method for avoiding oxide gouging in shallow trench isolation (STI) regions of a semiconductor device comprising the steps of:

etching a trench in an STI region;

~~depositing an insulating material in~~ filling said trench with an insulating material;

depositing an anti-reflective coating (~~ARC~~) layer over said STI region and extending beyond the boundaries of said STI region;

etching a portion of said ~~ARC~~ anti-reflective coating layer over said STI region leaving a remaining portion of said ~~ARC~~ anti-reflective coating layer over said STI region and extending beyond the boundaries of said STI region; and

depositing a protective cap covering said STI region and extending beyond the boundaries of said STI region, wherein said protective cap covers said remaining portion of said ~~ARC~~ anti-reflective coating layer and said insulating material over said STI region.

Claim 11 (currently amended) The method as recited in claim 10 further comprising the steps of:

etching a portion of said protective cap to expose said remaining portion of said ~~ARC~~ anti-reflective coating layer while maintaining protection of said insulating material; and

etching said remaining portion of said ~~ARC~~ anti-reflective coating layer;

wherein said insulating material is protected during etching of said remaining portion of said ~~ARC~~ anti-reflective coating layer by said protective cap.

Claim 12 (original) The method as recited in claim 10, wherein said protective cap comprises photoresist material.

Claim 13 (original) The method as recited in claim 12, wherein said photoresist material has a thickness of about 800Å to 1200Å.

Claim 14 (currently amended) The method as recited in claim 11, wherein said remaining portion of said ~~ARC~~ anti-reflective coating layer is etched using a plasma etch process.

Claim 15 (original) The method as recited in claim 10, wherein said insulating material comprises thermal oxide.